

RESOLUTION NO. 90-81

A RESOLUTION OF THE LODI CITY COUNCIL  
APPROVING THE GEOTHERMAL PROJECT OPERATING AGREEMENT  
BY AND AMONG THE NORTHERN CALIFORNIA POWER AGENCY AND  
THE GEOTHERMAL PROJECT PARTICIPANTS

=====

RESOLVED, the Geothermal Project Operating Agreement is hereby approved and the City Manager and City Clerk are hereby authorized and directed to execute the Agreement for and on behalf of the city, with such technical, nonsubstantive changes as he or she may approve after consultation with counsel, and with the unanimous consent of the Northern California Power Agency and the Project Participants.

Dated: May 16, 1990

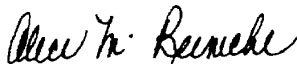
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I hereby certify that Resolution No. 90-81 was passed and adopted by the City Council of the City of Lodi in a regular meeting held May 16, 1990 by the following vote:

Ayes: Council Members - Hinchman, Olson, Pinkerton, Reid and Snider  
(Mayor)

Noes: Council Members - None

Absent: Council Members - None

  
Alice M. Reimche  
City Clerk

**NCPA** A Public Agency

## Northern California Power Agency

180 Cirby Way, Roseville California 95678

**MICHAEL W. McDONALD**  
General Manager

(916) 781-4200

April 6, 1990

*Correct*

*Copy*

TO: NCPA Geothermal Project Participants  
FROM: General Manager  
SUBJECT: Geothermal Operating Agreement

In follow-up to Commission action of March 22, 1990 (NCPA Resolution No. 90-06), enclosed is a copy of the Geothermal Operating Agreement and a form of resolution for presentation to your governing body for approval.

Also enclosed is a copy of the NCPA Staff Report that was submitted to the Commission which describes the background and need for this agreement. If you require any additional NCPA staff support in the presentation of this Agreement before your governing body, please let me know as we would be happy to assist you in any way.

Upon approval of this document, please send an executed copy of the Agreement and resolution to my attention. When all the participants have signed, a fully executed copy will be sent to you for your records.

By copy of this letter, I am also forwarding this Agreement to your City Clerk for processing.

Yours truly,



**MICHAEL W. McDONALD**  
General Manager

Enc.

cc: City Clerk

RESOLUTION NO. 90-06  
RESOLUTION OF THE  
NORTHERN CALIFORNIA POWER AGENCY  
AUTHORIZING THE EXECUTION OF THE  
GEOTHERMAL PROJECT OPERATING AGREEMENT  
BETWEEN THIS AGENCY AND THE  
GEOTHERMAL PROJECT PARTICIPANTS

WHEREAS, the Technical Committee and the Facilities Committee has prepared, revised and recommended for approval of the Geothermal Project Operating Agreement (Agreement), last revised as of March 8, 1990; and

WHEREAS, the Agreement would accomplish all of the objectives evidenced in the July 28, 1983 Memorandum of Understanding Re NCPA Geothermal Projects, approved by the Project Participants for Project No. 2 and for Project No. 3; and

WHEREAS, the Agreement would allocate project costs equitably, make the Project Participants indifferent to the source of steam, and make the best use of the Powerplants and the Steamfield; and,

WHEREAS, the Geothermal Project Operating Agreement would institutionalize rigorous planning and provide for the future of the entire Project as a whole; and

WHEREAS, this Commission has found and determined that execution of the Geothermal Project Operating Agreement is in the best interest of this Agency and the Project Participants;

NOW THEREFORE BE IT HEREBY RESOLVED, as follows:

Section 1. The Geothermal Project Operating Agreement is hereby approved and the General Manager is hereby authorized and directed on behalf of this Agency to execute and deliver the agreement with such nonsubstantive or clarifying changes as he may determine, with the advice of counsel, are in the best interest of this Agency.

Section 2. The General Manager is hereby requested to circulate execution counterparts of the Geothermal Project Operating Agreement to each of the Project Participants with the recommendation of this Commission that each of them execute and deliver the Agreement.

PASSED AND ADOPTED this 22nd day of March, 1990 by the following vote on roll call:

	<u>Vote</u>	<u>Abstained</u>	<u>Absent</u>
Alameda	<u>Aye</u>	_____	_____
Biggs	_____	_____	<u>X</u>
Gridley	_____	_____	<u>X</u>
Healdsburg	<u>Aye</u>	_____	_____
Lodi	<u>Aye</u>	_____	_____
Lompoc	<u>Aye</u>	_____	_____
Palo Alto	_____	<u>X</u>	_____
Redding	_____	<u>X</u>	_____
Roseville	<u>Aye</u>	_____	_____
Santa Clara	<u>Aye</u>	_____	_____
Truckee	_____	<u>X</u>	_____
Turlock	<u>Aye</u>	_____	_____
Ukiah	<u>Aye</u>	_____	_____
Plumas-Sierra	<u>Aye</u>	_____	_____

GEOTHERMAL PROJECT OPERATING AGREEMENT  
BETWEEN  
NORTHERN CALIFORNIA POWER AGENCY  
AND  
THE GEOTHERMAL PROJECT PARTICIPANTS

DATED AS OF , 1990

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Execution Counterpart Geothermal Project Operating Agreement

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GEOTHERMAL PROJECT OPERATING AGREEMENT  
BETWEEN  
NORTHERN CALIFORNIA POWER AGENCY  
AND  
THE GEOTHERMAL PROJECT PARTICIPANTS

1  
2  
3  
4 THIS AGREEMENT (capitalized terms used herein shall have the meanings given them  
5 within their context, in section 1 of this Agreement, and in the instruments to which this  
6 Agreement refers), dated as of \_\_\_\_\_, 1990, by and among the Northern  
7 California Power Agency (NCPA), a joint powers agency and public entity of the State of  
8 California, and certain of its Members, the Cities of Alameda, Biggs, Gridley, Healdsburg,  
9 Lodi, Lompoc, Palo Alto, Roseville, Santa Clara, and Ukiah, and the Turlock Irrigation  
10 District, and the Plumas-Sierra Rural Electric Cooperative (Project Participants), is made  
11 with reference to these

R E C I T A L S :

13 A. The Member Agreement for Construction, Operation and Financing of NCPA  
14 Geothermal Generating Unit No. 2 Project, dated as of June 15, 1977, as amended and  
15 supplemented, by and among NCPA and certain of its Members, the Cities of Alameda,  
16 Biggs, Gridley, Healdsburg, Lodi, Lompoc, Roseville, Santa Clara, and Ukiah, and the  
17 Plumas-Sierra Rural Electric Cooperative provided for the construction, operation, and  
18 financing of the Project No. 2, consisting of two nameplate-rated 55-megawatt geothermal  
19 electric generating units (Project No. 2 Member Agreement ).

20 B. The Member Service Agreement by and among NCPA and certain of its Members,  
21 the Cities of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Palo Alto, Redding,  
22 Roseville, Santa Clara and Ukiah, and the Plumas-Sierra Rural Electric Cooperative,  
23 effective February 12, 1981, provides in section 5.01, among the provisions which are  
24 common to the three forms of the Member Service Agreement, for annual budgets,  
25 forecasts, and plans (Member Service Agreement).

26 C. The Agreement for Construction, Operation and Financing of Geothermal  
27 Generating Project Number 3, dated as of July 1, 1983, as amended and supplemented, by

1 and among NCPA and certain of its Members, the Cities of Alameda, Biggs, Gridley,  
2 Healdsburg, Lodi, Lompoc, Palo Alto, Roseville, Santa Clara, and Ukiah, and the Plumas-  
3 Sierra Rural Electric Cooperative provided for (i) the construction, operation, and financing  
4 of the Project No. 3, consisting of two nameplate-rated 55-megawatt geothermal electric  
5 generating units on the East Block, (ii) refinancing Project No. 2, (iii) sharing among  
6 Project No. 2 and Project No. 3, and (iv) defining the term "Project" to include Project No.  
7 2 and Project No. 3 (Project No. 3 Member Agreement ).

8 D. Pursuant to section 4 of the Project No. 3 Member Agreement NCPA agreed to  
9 provide to each Project Participant, and each Project Participant agreed to take, or cause to  
10 be taken, such participant's Project Entitlement Percentage of the capacity and energy of the  
11 Project.

12 E. Section 16 of the Project No. 3 Member Agreement provides that NCPA may, in  
13 accordance with the provisions on member direction and review in section 11, enter into  
14 agreements for the transfer or sharing of resources, facilities, and costs between and among  
15 the Project No. 3 and other entities and projects (including without limitation Project No.  
16 2), which agreements may provide, among other things, for the transfer or sharing of  
17 steam, transmission facilities, generating equipment, spare parts, staff, insurance, taxes  
18 and other payments, and for the integrated operation of the Project No. 3 and Project No. 2  
19 by NCPA.

20 F. Section 16 (c) of the Project No. 3 Member Agreement constitutes approval by the  
21 participants in Project No. 2 of, among other things, equal sharing between Project No. 2  
22 and the East Block portion of the Project of steam from the Project No. 2 area and the East  
23 Block area.

24 G. Section 16 (d) of the Project No. 3 Member Agreement provides in part that,  
25 subject to the specific terms of contemplated agreements for transfer or sharing of  
26 resources, facilities and costs in subsections (a) and (b) of section 16, Project No. 2 and  
27 the East Block portion of Project No. 3 shall be conducted for the mutual benefit of all  
28 participants therein.

29 H. On July 28, 1983, NCPA on behalf of the Project Participants in Project No. 2 and  
30 Project No. 3, declared in a Memorandum of Understanding Re NCPA Geothermal  
31 Projects, approved by the Project Participants for Project No. 2 and for Project No. 3,  
32 voting separately and in accordance with the procedures required of them, that the Project



1 Participants would negotiate a further agreement as authorized by the Project No. 3  
2 Member Agreement, which would include concepts with reference to the operation of the  
3 two projects, and some of those concepts have been accomplished by agreement or  
4 practice, and some remain for accomplishment or modification in this Agreement as  
5 follows. The concepts of the Memorandum of Understanding Re NCPA Geothermal  
6 Projects are: (1) Accounting for Project costs will be under the FERC Uniform System of  
7 Accounts and separated by Projects, and further separated by units to the extent necessary  
8 to determine unit efficiency; (2) in the event of an extended period of reduced steam  
9 availability, the available steam will be allocated to the most efficient units to be operated to  
10 best meet all Participants loads, with a procedure developed so that the available generation,  
11 costs and savings will be equitably reallocated among Project Participants; (3) in the event  
12 of an extended period of reduced transmission capacity for the Projects, the most efficient  
13 units will be operated to meet the available transmission capacity, with a procedure  
14 developed so that the resulting generation, costs and savings will be equitably reallocated  
15 among the Project Participants; (4) during unit outages, unit Participants will be responsible  
16 for all costs associated with that unit such as repair costs and replacement power costs if  
17 required; (5) if a unit is retired for any reason, unit Participants are responsible for all costs  
18 resulting from retirement including remaining debt service, if any; (6) any penalty payments  
19 resulting from unit three or unit four not being operational by the date required in any  
20 pertinent contracts will be assessed against Project No. 3; (7) steam costs will be allocated  
21 between the Projects in accordance with the steam purchase contracts from time to time  
22 existing; (8) in the event NCPA funds future wells or well rehabilitation, a procedure will  
23 be established in advance for determining to which Project each such expenditure is for and  
24 thereafter costs and resulting credits, if any, will be allocated to that Project; (9) Project No.  
25 3 Participants will negotiate to acquire the interest of Project No. 2 Participants in the drill-  
26 rig funded by the Development Fund and any revenue from leases or drill operations after  
27 such transfer will accrue to Project No. 3.

28 I. In the Agreement for Transfer of Rights to Capacity and Energy of Geothermal  
29 Generating Project Number 3, dated as of October 1, 1984, (Turlock Member Agreement),  
30 as supplemented, Turlock Irrigation District acquired Transferred East Block Entitlement  
31 Percentages of the capacity and energy of the Project from the Cities of Biggs, Gridley,  
32 Healdsburg, Lodi, Palo Alto, Roseville, and Ukiah, and the Plumas-Sierra Rural Electric  
33 Cooperative.

1 J. On August 30, 1985 NCPA purchased the two federal geothermal resources leases  
2 which are the source of steam supply for all four units of Project No. 2 and Project No. 3.

3 K. Project Participants in Project No. 3 have acquired the interest of Project  
4 Participants in Project No. 2 in the drill-rig funded by the Development Fund pursuant to  
5 the Memorandum of Understanding Re NCPA Geothermal Projects.

6 L. By this Agreement, NCPA and the Project Participants intend to regard the Project  
7 as a single resource, because of the finite nature of the steam reservoir, and provide the  
8 means to manage Steamfield usage, to optimize that usage, and make appropriate  
9 reflections thereof in cost accounting and budgeting, and to modify or clarify some of the  
10 understandings among them, including certain understandings in the Memorandum of  
11 Understanding Re NCPA Geothermal Projects, in order to achieve those objectives by this  
12 Agreement.

13 NOW THEREFORE, in consideration of the premises described in the recitals, and of the  
14 promises, covenants, terms and conditions in this Agreement, NCPA and the Project  
15 Participants do hereby enter into this

16 AGREEMENT :

17 1. *Definitions.* Unless the context requires otherwise, the capitalized terms in this  
18 Agreement shall have the following meanings.

19 1.1. "Agreement" means this Geothermal Project Operating Agreement by and  
20 among NCPA and the Project Participants.

21 1.2. "Annual Budget" means the Annual Budget required by section 8.02 of the  
22 Member Service Agreement, section 6 of Project No. 3 Member Agreement,  
23 and instruments connected with the Bonds, and if those agreements or  
24 instruments are superseded, then the term "Annual Budget" shall have the  
25 meaning given it in the succeeding agreement, and if there is none, then the  
26 definition supplied in the superseded agreements and instruments shall  
27 apply.

28 1.3. "Bonds" means any evidences of indebtedness issued by NCPA to support or  
29 finance the Project.

- 1           1.4. "Cost-Effective" means cost-effective in the context of and for the benefit of  
2           the Project, as determined by the Geothermal Operations Committee.
- 3           1.5. "East Block Price" means the price for steam set and adjusted pursuant to the  
4           East Block Geothermal Steam Sales Agreement originally made between  
5           NCPA and Shell Oil Company on September 15, 1980, subsequently  
6           terminated as to the successor of Shell Oil Company, Grace Geothermal  
7           Corporation, on August 30, 1985, but considered by NCPA and the  
8           Project Participants to be in effect with respect to determining and  
9           calculating the relative price for steam from the East Block area of the  
10          Steamfield for the purpose of royalty payments to the lessor.
- 11          1.6. "Efficient" or "Efficiency" means efficient or efficiency in the context of a  
12          Powerplant, as determined by the Geothermal Operations Committee.
- 13          1.7. "Geothermal Operations Committee" means the Technical Committee of  
14          NCPA, or its successor, sitting pursuant to this Agreement.
- 15          1.8. "Legal Notice" means sufficient notice under the California open meeting laws.
- 16          1.9. "Member Service Agreement" means the three forms of agreement between  
17          NCPA and certain of its Members, including the Cities of Alameda, Biggs,  
18          Gridley, Healdsburg, Lodi, Lompoc, Palo Alto, Redding, Roseville, Santa  
19          Clara and Ukiah, and the Plumas-Sierra Rural Electric Cooperative,  
20          effective February 12, 1981.
- 21          1.10. "Modified Operational Plan" means an Operational Plan amended by the  
22          Commission upon the advice of the Geothermal Operations Committee from  
23          time to time.
- 24          1.11. "Operational Plan" means the five or more-year plan for the operation of the  
25          Steamfield and Powerplants adopted pursuant to this Agreement. An  
26          Operational Plan shall set objectives and parameters for operation of the  
27          Steamfield and the Powerplants. The Operational Plan (i) shall establish the  
28          maximum and otherwise describe the annual and monthly capacity and  
29          energy output of the Powerplant and the associated Project Participants'  
30          annual capacity and energy entitlement, based on Project Entitlement
-

1 Percentages, which each Participant may schedule and (ii) shall include  
2 operating guidelines for Powerplant operations and scheduling, Steamfield  
3 operations and development, minimum operating levels, Project  
4 maintenance schedules, Project enhancement schedules, and related cost  
5 information. The Operational Plan shall provide for avoiding, correcting,  
6 and addressing Substantial Deviations. The general goals of an Operational  
7 Plan shall be the Cost-Effective optimization of Steamfield and Powerplant  
8 usage.

9 1.12. "Powerplant" means one or more of the electric generating units at the Project  
10 originally nameplate-rated at 55 megawatts each.

11 1.13. "Primary Block Price" means the price for steam set and adjusted pursuant to  
12 the Geothermal Steam Sales Agreement originally made between Shell Oil  
13 Company and NCPA on June 27, 1977, and amended on May 25, 1978,  
14 November 30, 1978, December 6, 1979, and September 15, 1980,  
15 subsequently terminated as to the successor of Shell Oil Company, Grace  
16 Geothermal Corporation, on August 30, 1985, but considered by NCPA  
17 and the Project Participants to be in effect with respect to determining and  
18 calculating the relative price for steam from the Primary Block area of the  
19 Steamfield for the purpose of royalty payments to the lessor.

20 1.14. "Project" means the Steamfield and the Powerplants, and all improvements,  
21 equipment, materials, and appurtenances necessary or convenient for the  
22 generation, transformation, and transmission of electric power from Project  
23 No. 2 and Project No. 3 controlled or funded by NCPA.

24 1.15. "Project Entitlement Percentage" means, with respect to each Project  
25 Participant, the percentage so identified and set forth opposite the name of  
26 such Project Participant in Appendix A to the Project No. 3 Member  
27 Agreement, as defined in Amendment Number One thereof, as such  
28 percentage shall be revised from time to time in accordance with sections  
29 7(d) and 13 thereof, shown on Exhibit B, attached to and incorporated into  
30 this Agreement. "East Block Entitlement Percentage" and "Project No. 2  
31 Entitlement Percentage" mean, with respect to each Project Participant the  
32 percentages so identified and set forth opposite the name of such Project

1 Participant in the same Appendix A, as such percentages shall be revised  
2 from time to time in accordance with sections 7(d) and 13 thereof, and all as  
3 may be affected by the Agreement for Transfer of Rights to Capacity and  
4 Energy of Geothermal Generating Project Number 3, dated as of  
5 October 1, 1984, by and among the Transferring Participants and the  
6 Turlock Irrigation District (Turlock Member Agreement), with the  
7 Transferred East Block Entitlement Percentages so identified and set forth  
8 opposite the name of each Transferring Participant and Turlock Irrigation  
9 District in Appendix A thereto. The "East Block Entitlement Percentage" of  
10 Palo Alto is also affected by the Agreement between the Turlock Irrigation  
11 District and the City of Palo Alto, dated December 30, 1985.

12 1.16. "Project No. 2 Member Agreement" means the Member Agreement for  
13 Construction, Operation and Financing of NCPA Geothermal Generating  
14 Unit No. 2 Project, dated as of June 15, 1977, as amended and  
15 supplemented, by and among NCPA and certain of its Members, the Cities  
16 of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Roseville, Santa  
17 Clara, and Ukiah, and the Plumas-Sierra Rural Electric Cooperative, which  
18 provided for the construction, operation, and financing of Project No. 2.

19 1.17. "Project No. 3 Member Agreement" means the Agreement for Construction,  
20 Operation and Financing of Geothermal Generating Project Number 3,  
21 dated as of July 1, 1983, as amended and supplemented, by and among  
22 NCPA and certain of its Members, the Cities of Alameda, Biggs, Gridley,  
23 Healdsburg, Lodi, Lompoc, Palo Alto, Roseville, Santa Clara, and Ukiah,  
24 and the Plumas-Sierra Rural Electric Cooperative, which provided for the  
25 construction, operation, and financing of Project No. 3.

26 1.18. "Steamfield" means the geothermal steam resource available to the Project  
27 from federal Geothermal Resources Leases CA 949 and CA 950 held by  
28 NCPA, and other arrangements which may make a geothermal steam  
29 resource available to the Project.

30 1.19. "Substantial Deviation" means a variation from a major objective or parameter  
31 in an Operational Plan or Modified Operational Plan of plus or minus five  
32 percent or more, unless otherwise provided in a plan.

1           1.20. "Year" means the fiscal year ended June 30.

2   2. *Term.* This Agreement shall remain in force and effect from the date first mentioned  
3 above, which date shall be the date on which this Agreement has been duly executed and  
4 delivered to NCPA by Project Participants the entitlement percentages of which, in the  
5 aggregate, equal one hundred percent under the Project No. 2 Member Agreement and the  
6 Project No. 3 Member Agreement, including any Project Participant which takes its interest  
7 as transferee of a Transferred East Block Entitlement Percentage or Permanent Transferred  
8 East Block Entitlement Percentage, until this Agreement may be superseded by another  
9 agreement among the same parties for the operation of the Project as a facility or until the  
10 Project Participants terminate or cancel this Agreement with the same formality as its  
11 execution, as provided in this section 2.

12 3. *Geothermal Operations Committee.* There is in NCPA a Technical Committee of  
13 Member representatives which meets monthly. At each monthly meeting the Technical  
14 Committee representatives of the Members who are Project Participants shall sit as the  
15 Geothermal Operations Committee. If the Technical Committee is abolished or succeeded,  
16 the Geothermal Operations Committee shall continue to exist, as appointed in the same  
17 manner as the Technical Committee, or the Geothermal Operations Committee shall be  
18 succeeded, if this Agreement is superseded as provided herein. The Geothermal Operations  
19 Committee shall advise NCPA on matters relating to the Project. The Geothermal  
20 Operations Committee shall meet and take action with a quorum as provided in section 11  
21 of the Project No. 3 Member Agreement and the Turlock Member Agreement, and in  
22 addition, without objection the committee may act by consensus. Regular and special  
23 meetings shall be held with Legal Notice. Special meetings may be called by the General  
24 Manager, the Operation Manager, or a representative of a Project Participant, or an  
25 alternate. The Geothermal Operations Committee shall have such other authority as may be  
26 delegated to it by the NCPA Commission and the Project Participants.

27 4. *Continuing Monitoring.* NCPA shall report each month to the Geothermal Operations  
28 Committee on the operational status of the Steamfield and the Powerplants and attainment  
29 of the Operational Plan and any Modified Operational Plan, along with a monthly summary  
30 of activities, expenditures, and other costs provided in and compared to the Annual Budget,  
31 and monthly data including, but not limited to Powerplant availability, energy production,  
32 capacity levels, minimum and maximum operating levels, and energy banking accounts.

1    5. *Plan Adoption.* Beginning at the June 1990 Commission meeting, and every year  
2    thereafter, the Commission shall adopt, upon the recommendation of the Geothermal  
3    Operations Committee, an Operational Plan for the Project. Prior to the adoption of the first  
4    Operational Plan, and in the interim between plan adoptions, NCPA shall be guided in  
5    Steamfield and Powerplant operations by the advice of the Geothermal Operations  
6    Committee. After the adoption of the first Operational Plan, NCPA shall conduct  
7    Steamfield and Powerplant operations in accordance with the Commission adopted  
8    Operational Plan and the Modified Operational Plan, and NCPA shall have the authority to  
9    meet or make a Substantial Deviation as may be required for prudent utility practice in  
10   accordance with this Agreement.

11   6. *Planning.* The Project Participants shall present to the Geothermal Operations Committee  
12   individual written forecasts of their capacity and energy requirements from the Project by  
13   November 1 of each year covering the next five Years. Such forecasts shall be periodically  
14   revised as the Project Participants determine to make revisions. In cooperation with the  
15   Project Participants, NCPA staff shall prepare draft Operational and Modified Operational  
16   Plans. Each month NCPA staff shall present to the Geothermal Operations Committee a  
17   Project operations report, including a projection of Powerplant operations and generation  
18   for at least the next 12 months, based on a compilation of the Project Participants'  
19   forecasts, with such cost information as the committee may require. If NCPA determines to  
20   recommend changes in the Operational Plan, NCPA staff shall present to the Geothermal  
21   Operations Committee a draft Modified Operational Plan. If the Geothermal Operations  
22   Committee determines to recommend changes in the Operational Plan, the committee shall  
23   present a draft Modified Operational Plan to the Commission as soon as practical. By the  
24   April Commission meeting every year the Geothermal Operations Committee shall present  
25   to the Commission an Operational Plan.

26   7. *Steamfield and Powerplant Operations.* Pursuant to section 11 of the Project No. 3  
27   Member Agreement, entitled Member Direction and Review, the Project Participants do  
28   hereby direct NCPA to operate the Steamfield and Powerplants in accordance with  
29   Operational Plans and Modified Operational Plans adopted by the Commission. The Project  
30   Participants may schedule energy in compliance with such plans. The Project Participants  
31   may vary their receipt of energy monthly, but a Project Participant shall not take more than  
32   its Project Entitlement Percentage annually of the energy available from the Project  
33   annually, and by the end of the Year any portion of energy to which a Project Participant is

1 entitled by its Project Entitlement Percentage that is not received shall be deemed waived  
2 and foregone. If NCPA encounters a Substantial Deviation or determines any need to make  
3 a Substantial Deviation from an Operational Plan or Modified Operational Plan, NCPA staff  
4 shall take such action as may be required for prudent utility practice and promptly notify the  
5 Geothermal Operations Committee and the Project Participants in writing. NCPA staff shall  
6 give such prompt notification of any Substantial Deviation which NCPA (i) determines to  
7 make at least seven days in advance, unless emergency conditions and prudent utility  
8 practice require action beforehand or (ii) encounters, within seven days of the deviation.  
9 The General Manager, the Operation Manager, or a representative of a Project Participant  
10 on the Geothermal Operations Committee, or an alternate, may with Legal Notice call a  
11 meeting of the Geothermal Operations Committee to consider the Substantial Deviation and  
12 such changes of the Operational Plan and the Modified Operational Plan as may be  
13 appropriate under the circumstances.

14 8. *Costs.* NCPA shall continue to account for Project costs under the Federal Energy  
15 Regulatory Commission Uniform System of Accounts for Public Utilities Subject to the  
16 Federal Power Act, separating such costs between Project No. 2 and Project No. 3, and  
17 further separated by units to the extent necessary to determine unit Efficiency. Project cost  
18 elements are classified as fixed or variable or allocated between fixed and variable. As a  
19 general principle, fixed costs shall be assigned to capacity and variable costs shall be  
20 assigned to energy. An example of the classification of fixed and variable costs assigned to  
21 capacity and energy is illustrated in Exhibit A, attached to and incorporated into this  
22 Agreement. Fixed and variable costs shall be determined in the Operational Plan. The  
23 variable price for steam and such other costs which vary with energy output shall be  
24 allocated to the Project Participants at the same price per unit of energy output without  
25 regard to which Powerplant is the source of the energy. Project Participants shall pay for  
26 capacity and energy from the Project in accordance with this Agreement and the Project  
27 No. 3 Member Agreement. Exhibit A contains an example of annual payments for  
28 capacity and energy for a one year period, estimated on the basis of this section 8. This  
29 section 8 is an agreement among the Project Participants made pursuant to section 16 of the  
30 Project No. 3 Member Agreement for the transfer or sharing of resources, facilities and  
31 costs between and among the Project for the integrated operation of the Project by NCPA,  
32 and for the equal sharing of steam. Solely among themselves and NCPA, the Project  
33 Participants waive as to the price for steam and the costs of Steamfield operation,  
34 maintenance, and development that sentence of section 5(a) of the Project No. 3 Member



1 Agreement, which provides that NCPA shall fix charges to the Project Participants for  
2 (i) all other payments provided to be made by NCPA under the Steam Sales Agreement  
3 and the Project No. 2 Steam Sales Agreement defined therein, based upon East Block  
4 Entitlement Percentages applied to such costs allocable to the East Block portion of the  
5 Project and Project No. 2 Entitlement Percentages applied to such costs allocable to the  
6 Project No. 2 portion of the Project; and to meet the costs described in (ii) thereof, of any  
7 other operation, maintenance and replacement costs of the Project, to the extent they are the  
8 costs of Steamfield operation, maintenance, and development, based on the anticipated  
9 energy sales of the East Block portion of the Project and, on the anticipated energy sales of  
10 the Project No. 2 portion of the Project, respectively. NCPA shall continue to pay the  
11 royalty due the lessor of the Steamfield on the basis of the Primary Block Price and the East  
12 Block Price, unless or until arrangements for such payments change, and the costs of such  
13 royalty shall be included in the price of steam from the Steamfield as provided in this  
14 section 8. The Annual Budget shall reflect monthly estimates of fixed and variable costs of  
15 the Project. Monthly billings by NCPA to the Project Participants shall compare the actual  
16 fixed and variable costs with the Annual Budget estimates.

17 *9. Member Direction and Review.* All directions to NCPA with respect to the Project and  
18 all meetings of NCPA in connection therewith shall be as provided in section 11 of the  
19 Project No. 3 Member Agreement and the Turlock Member Agreement.

20 *10. Reduced Steam Availability.* In the event of an extended period of reduced steam  
21 availability, the available steam from the Steamfield shall be allocated to the most Efficient  
22 Powerplants, and operated pursuant to the Operational Plan, or Modified Operational Plan,  
23 to best meet all Project Participant requirements from the Project and to achieve the most  
24 Cost-Effective use of the Project, within the objectives and parameters of such plans, so  
25 that available capacity and energy are allocated to the Project Participants in accordance with  
26 their Project Entitlement Percentages.

27 *11. Reduced Transmission Capacity.* In the event of an extended period of reduced  
28 transmission capacity, the Powerplants shall be operated pursuant to the Operational Plan,  
29 or Modified Operational Plan, to best meet all Project Participant requirements from the  
30 Project and to achieve the most Cost-Effective use of the Project, within the objectives and  
31 parameters of such plans, so that available capacity and energy are allocated to the Project  
32 Participants in accordance with their Project Entitlement Percentages.

1    12. *Powerplant Repair, Retirement, Replacement and Enhancement.* NCPA shall allocate  
2    the costs of repair, retirement, replacement, or enhancement of the Project to the Project  
3    Participants in accordance with their Project Entitlement Percentages without regard to  
4    which part of the Project or Powerplant is affected by the need for repair, retirement,  
5    replacement, or enhancement.

6    13. *Powerplant Production Reduction, Suspension or Retirement.* An Operational Plan or  
7    a Modified Operational Plan may include objectives and parameters for the reduction of  
8    production of any Powerplant, and the suspension of production, or retirement of any  
9    Powerplant from service in the Project. In the event of a long-term reduction of production,  
10   suspension, or retirement of any Powerplant in the Project, (i) the selection of the  
11   Powerplant for reduction, suspension, or retirement shall be made on the basis of which  
12   remaining Powerplant or Powerplants will result in the most Cost-Effective operation of the  
13   Project, and (ii) the Project Participants shall remain responsible for any debt service  
14   remaining on Bonds issued to support the acquisition, construction, completion, or  
15   refinancing of the Powerplants in accordance with their Project No. 2 Entitlement  
16   Percentages and East Block Entitlement Percentages, except as provided in section 12 of  
17   this Agreement. All other debt service responsibility and costs, and the capacity and energy  
18   from the remaining Powerplants shall be allocated to the Project Participants in accordance  
19   with their Project Entitlement Percentages.

20   14. *Notices.* Notices shall be mailed first class to the addresses of the Project Participants  
21   maintained on the roster of NCPA.


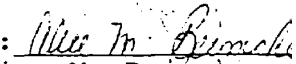
22   15. *Member Service Agreement.* This Agreement is a Service Schedule pursuant to section  
23   2.04 of the Member Service Agreement.

24   16. *Project Agreements.* This Agreement is a further statement and modification of the  
25   agreements by and among NCPA and the Project Participants in Project No. 2 Member  
26   Agreement, Project No. 3 Member Agreement, the Member Service Agreement, and the  
27   Memorandum of Understanding Re NCPA Geothermal Projects, which is intended to be  
28   harmonized with those agreements so as to eliminate conflict. This Agreement shall not be  
29   deemed to modify or change any obligation of the Project Participants arising out of Project  
30   No. 2 Member Agreement or Project No. 3 Member Agreement to the holders of Bonds.  
31   Nothing in this Agreement shall in any way alter or diminish the obligations of the Project  
32   Participants pursuant to section 5(b) of the Project No. 3 Member Agreement. In the event

1 of a conflict between those agreements and this Agreement which does not adversely effect  
2 the rights of a holder of Bonds, this Agreement shall take precedence. Any provision of  
3 this Agreement found invalid by a court of competent jurisdiction shall be severed from this  
4 Agreement if the remaining provisions will effectuate the intent of the parties.

5 *18. Counterparts.* This Agreement may be executed in several counterparts, all or any of  
6 which shall be regarded for all purposes as one original and shall constitute and be but one  
7 and the same instrument.

8 WHEREFORE, NCPA, upon authorization by its Commission sitting as a whole, at a duly  
9 and regularly called meeting, and the Project Participants, after all due authorization by their  
10 governing bodies, have executed this Agreement, as evidenced by the signatures of their  
11 authorized representatives below.

PARTY	REPRESENTATIVE
NCPA	_____ Michael W. McDonald Its General Manager
Alameda	_____
Biggs	_____
Gridley	_____
Healdsburg	_____
Lodi	<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">   Thomas A. Peterson  City Manager </div> <div style="width: 35%; text-align: right;"> Attest:   Alice M. Reinche  City Clerk </div> </div>
Lompoc	_____
Palo Alto	_____
Roseville	_____
Santa Clara	_____
Turlock Irrigation District	_____
Ukiah	_____
Plumas-Sierra Rural Electric Cooperative	_____

## EXHIBIT A

### DETERMINATION OF FIXED AND VARIABLE COSTS

#### INTRODUCTION

A determination of the "fixed" and "variable" costs for NCPA generation projects is required so that the proper decisions can be made by system dispatchers to minimize operating costs and also to ensure that costs for the projects are allocated equitably among project participants.

Accounting records must be maintained for those expenses incurred by NCPA during the operation of its power plants. These records are maintained according to the classifications published in the FERC Chart of Accounts. The FERC Chart of Accounts does not contain any guidelines for use by NCPA to further differentiate costs between "fixed" and "variable". However, utilities and their regulating agencies have established guidelines for classifying costs as "fixed" and/or "variable" which are incorporated herein.

#### GENERAL

Budget. The Annual Budget, prepared by NCPA and approved by its Commission, provides a detailed summary of expenditures for each project. The Budget includes, in addition to the annual budgeted amounts for each line item, the allocation of those project costs to "fixed" and "variable". The following are basic principles utilized by the project participants in making this allocation:

Fixed Costs. Fixed costs have generally been defined as those project-related costs which do not change as the electrical output of the plant varies. Examples of fixed costs are debt service, the fixed portion of operation expenses, and property taxes.

Variable Costs. Variable costs are those costs which are dependent upon the electrical output of a generating unit or plant. An example of a variable cost is the cost for natural gas or fuel oil used as an energy source at a generating plant. That is, as the amount of generation increases, so does the amount of fuel consumed.

Billing. Monthly power billings for "fixed" and "variable" costs are based on the NCPA budget as adopted by the Commission. If actual fixed (\$ per kW) and/or variable (\$ per kWh) costs deviate substantially from the budgeted amounts, NCPA will propose to the

Commission an adjustment for those months remaining in NCPA's budget period.

#### GEOHERMAL PROJECT COSTS

As the operator of the Geothermal Project, NCPA incurs many types of costs. In order to economically load the plants within NCPA's system, the operating costs must be known and classified as "fixed" and/or "variable". Annual costs for the Geothermal Project are projected by NCPA and approved with the Budget by its Commission. It is assumed that "fixed" costs remain at a constant level for a twelve-month period and do not change because the output of the Project varies. "Variable" costs are assumed to change as the output of the plant increases or decreases during the twelve-month period of NCPA's Annual Budget.

Operating costs for the Geothermal Project are separated into two major categories: (1) costs of the steam consumed by the plants, and (2) all other costs of the plants. Both categories are further classified into "fixed" and "variable" components.

#### Fixed Costs - Steam Field

1. Net Debt Service - NCPA purchased the geothermal steam field. Debt service (principal and interest) on the bonds issued to acquire the steam field must be paid regularly regardless of the amount of steam the field produces. Therefore, debt service costs are considered to be a "fixed" cost. Interest income earned on related reserve accounts is used to reduce the debt service billed through the "fixed" cost charge.
2. Operation and Maintenance - The steam collection system and its controls must be operated and maintained in order to ensure the geothermal plants can be operated at their maximum capacity. These costs are considered to be "fixed".
3. Property Taxes - The installed cost of the steam wells, the collection system, its control equipment, the value of the remaining steam reserves, and annual generation levels are all factors used by the taxing counties to assess the valuation and determine the amount of property taxes. Even though the level for annual generation can vary, its effect on property taxes does not flow directly through to NCPA's Annual Budget. Property taxes are considered to be "fixed" because changes in the level of generation do not affect NCPA's current tax obligations.
4. Administrative and General Costs - Steam field administrative and general costs do not vary with plant output and are, therefore, considered to be "fixed".

### Variable Costs - Steam Field

1. Royalty paid to the Bureau of Land Management (BLM) - NCPA must pay a royalty on each 1,000 pounds of steam removed from the two federal leases. As the electrical output of the plant varies, the amount of steam required to maintain this output also varies. Therefore, royalty costs are considered to be "variable".

2. Steam Well Drilling and Field Development - Once the initial set of wells were drilled and commercial production obtained, the geothermal plants could operate at their full output. However, normal pressure declines in the field due to energy production require that additional wells must be drilled in order to maintain sufficient steam flows. Therefore, drilling costs incurred subsequent to the initial start-up date of each plant are considered as a "variable" expense.

### Fixed Costs - Geothermal Plant

1. Operation Costs - Other than hydrogen sulphide abatement, associated chemicals and disposal, all operation costs are "fixed". These costs include labor expenses which do not vary with plant output.

2. Maintenance Costs - Maintenance of structures is an annual requirement independent of plant output and is therefore considered to be "fixed". Maintenance reserves are also considered to be "fixed". Other maintenance costs are discussed below.

3. Administrative and General Costs - NCPA's administrative and general costs do not vary directly with plant output and are generally considered to be "fixed". However, pension and benefit costs are allocated based on the distribution of operating and maintenance direct labor expenses previously assigned to the "fixed" and "variable" categories.

4. Net Debt Service - Principal and interest on the bonds issued by NCPA to finance the construction of the geothermal plants must be paid regularly regardless of the operating status of the plants. Therefore, debt service is considered to be a "fixed" cost. Interest income earned on related reserve accounts is used to reduce the debt service billed through the "fixed" cost charge.

5. Property Taxes - The installed cost of constructing the geothermal plants and annual additions, if any, are factors used by the taxing counties to assess the valuation and determine the amount of property taxes. Property taxes are considered to be "fixed" because changes to the level of generation do not affect NCPA's tax obligations.

### Variable Costs - Geothermal Plant

1. Operation Costs - During operation of the geothermal plants the removal of sulphur wastes from the condensate is a continuous process. Environmental regulations require the removal of the sulphur by-product prior to the discharge of condensate. Disposal costs, the cost of chemicals which are used to react with the sulphur during the removal process, and State hazardous waste taxes are considered to be "variable" because they vary directly with the output of the plant.

2. Maintenance Costs - Maintenance expenses are generally classified as "variable" because as the plant output varies so does the amount of maintenance required.

3. Administrative and General (Pensions and Benefits) - These costs are allocated based on the distribution of operation and maintenance direct labor expenses previously assigned to the "fixed" and "variable" categories.

### Unit Costs

Geothermal plant net debt service is allocated to the two plants based on their individual debt service requirements. All other fixed costs of the plants and the steam field, including net steam field debt service, are allocated equally to both plants. Geothermal Project capacity is also allocated equally to both plants. The "fixed" cost per kilowatt for each plant is then determined by dividing the total fixed costs for each plant by one-half of the Project capacity.

The Project's per unit "variable" cost is determined by dividing the sum of all plant and steam field "variable" costs by the projected combined energy production of both plants and charged at the same price per kilowatt-hour without regard to which plant is the source of the energy.

The classification of Geothermal Project costs as "fixed" or "variable" based on NCPA's Fiscal Year 1989-1990 Budget and the foregoing guidelines is attached.



NORTHERN CALIFORNIA POWER AGENCY  
STEAM FIELD

28-Feb-90  
04:16 PM

	1989-90 BUDGET	ACCT NO.	DIVISION OF EXPENSES BETWEEN		LABOR CLASSIFIED BETWEEN		OTHER CLASSIFIED BETWEEN		CLASSIFI- CATION OF COSTS		Assumption - All plants are maintained in the Hot Stand-by operating mode. BASIS FOR CLASSIFICATION
			LABOR	OTHER	FIXED	VARIABLE	FIXED	VARIABLE	FIX	VAR	
STEAM FIELD OPERATIONS & MAINTENANCE:											
BLM royalty fees (Feb 7, 1990, adj for mtr corr)	\$3,651,322	507	--	3,651,322	0	0	0	3,651,322	OK	100%	BLM variable payment
OPERATIONS:											
Supervision & engineering	\$270,999	900	144,999	126,000	144,999	0	126,000	0	100%	OK	License; permits; guard serv; telephone
Steam operations expense	343,151	902	312,151	31,000	312,151	0	31,000	0	100%	OK	Lab anal; a/c maint; water equip
Miscellaneous steam power expense	19,000	506	--	19,000	0	0	19,000	0	100%	OK	Laundry; propane; office supplies
Lease royalty payments	76,810	507	--	76,810	0	0	76,810	0	100%	OK	Leases held for future use
	709,960				457,150	0	252,810	0			
MAINTENANCE:											
Maintenance supervision & engineering	956,665	510	56,665	--	56,665	0	0	0	100%	OK	Tech & plt supervision
Maintenance of structures	665,084	511	15,084	640,000	15,084	0	640,000	0	100%	OK	Sup restoration; road & pad maintenance
Maintenance of steam gathering system	551,026	513	326,026	225,000	326,026	0	225,000	0	100%	OK	Control & Computr maint 150K; gath system \$25K
Maintenance of miscellaneous steam gath sys	470,278	514	130,278	340,000	130,278	0	340,000	0	100%	OK	Well testing; piping & valves
	1,733,073				528,073	0	1,205,000	0			Note - Above expenditures are required to maintain capacity for geothermal plants and do not vary with the amount of steam delivered from the field.
CAPITAL ASSETS & INVENTORIES:											
Laboratory equipment	80		--	0	0	0	0	0	100%	OK	
Office furniture & equipment	2,000		--	2,000	0	0	2,000	0	100%	OK	
Transportation equipment	0		--	0	0	0	0	0	100%	OK	
Miscellaneous power plant equipment	736,074		--	736,074	0	0	736,074	0	100%	OK	
Communications systems	3,500		--	3,500	0	0	3,500	0	100%	OK	
Plant materials & operating supplies	40,000		--	40,000	0	0	40,000	0	100%	OK	
	781,574				0	0	781,574	0			
PROPERTY & OTHER TAXES:											
Property taxes	\$2,080,706	408	--	2,080,706	0	0	2,080,706	0	100%	OK	
Payroll taxes (FICA & SUI)	73,082	408	--	73,082	0	0	73,082	0	100%	OK	
Sales Tax	0		--	0	0	0	0	0	100%	OK	
	2,103,788				0	0	2,103,788	0			
SHARED FACILITIES ALLOCATION -	80,757		--	80,757	0	0	80,757	0	100%	OK	
ADMINISTRATIVE & GENERAL:											
Salaries & wages	\$73,728	920	73,728	--	73,728	0	0	0	100%	OK	
Office supplies & expenses	13,990	921	--	13,990	0	0	13,990	0	100%	OK	Travel & staff development
Indirect costs of NCPA	322,699	922	--	322,699	0	0	322,699	0	100%	OK	
Administration building rent credit	(55,941)	922	--	(55,941)	0	0	(55,941)	0	100%	OK	
Outside services	315,200	923	--	315,200	0	0	315,200	0	100%	OK	Water enhancement study
Property insurance	62,053	924	--	62,053	0	0	62,053	0	100%	OK	
Liability insurance (injuries & damages)	1,600	925	--	1,600	0	0	1,600	0	100%	OK	
Regulatory expenses	60,000	928	--	60,000	0	0	60,000	0	100%	OK	BLM road; regulatory & air quality fees
Miscellaneous general expenses	49,084	930	--	49,084	0	0	49,084	0	100%	OK	Trustee fees
Rents	2,000	931	--	2,000	0	0	2,000	0	100%	OK	
Maintenance of general plant	4,000	932	--	4,000	0	0	4,000	0	100%	OK	Auto licenses; safety equip
Subtotal	848,013				73,728	0	774,285	0			

	1989-90 BUDGET NO.	ADCT NO.	DIVISION OF EXPENSES BETWEEN		LABOR CLASSIFIED BETWEEN		OTHER CLASSIFIED BETWEEN		CLASSIFI- CATION OF COSTS	ASSUMPTION - All plants are maintained in the Hot Stand-by operating mode. BASIS FOR CLASSIFICATION
			LABOR	OTHER	FIXED	VARIABLE	FIXED	VARIABLE		
Employee pensions & benefits:										
SEP/IRA plan	130,306		--	130,306	0	0	130,306	0	OK 100%	Allocated on basis of above labor distribution.
Medical & dental insurance	86,636		--	86,636	0	0	86,636	0	OK 100%	Allocated on basis of above labor distribution.
Employee life insurance	5,587		--	5,587	0	0	5,587	0	OK 100%	Allocated on basis of above labor distribution.
Long-term disability insurance	7,920		--	7,920	0	0	7,920	0	OK 100%	Allocated on basis of above labor distribution.
Workers' compensation insurance	26,630		--	26,630	0	0	26,630	0	OK 100%	Allocated on basis of above labor distribution.
<b>Subtotal</b>	<b>265,159</b>	<b>908</b>			0	0	265,159	0		
TOTAL Administrative & General	1,113,172				73,728	0	1,039,444	0		
DEBT SERVICE (NET):										
Debt service-interest (net)	\$27,867,963		--	27,867,963	0	0	27,867,963	0	OK 100%	
Debt service-principal	10,007,980		--	10,007,980	0	0	10,007,980	0	OK 100%	
Interest income	(4,776,233)		--	(4,776,233)	0	0	(4,776,233)	0	OK 100%	
<b>TOTAL Debt Service</b>	<b>33,079,710</b>				0	0	33,079,710	0		
STEAM WELL DRILLING & FIELD DEVELOPMENT:										
New Production Wells	\$7,041,457		--	7,041,457	0	0	0	7,041,457	OK 100%	
Existing Well Workovers	1,033,109		--	1,033,109	0	0	0	1,033,109	OK 100%	
Exploratory & Field Development Reserve	0		--	0	0	0	0	0	OK 100%	
Well surface & other equipment	750,000		--	750,000	0	0	0	750,000	OK 100%	
Direct labor & related costs	1,702,757	700	--	1,702,757	0	1,702,757	0	0	OK 100%	Supervision \$175K; operations labor \$1,528K
Drill Rig operations & maintenance	325,000		--	325,000	0	325,000	0	0	OK 100%	
<b>TOTAL Steam Well Drilling &amp; Field Development</b>	<b>10,852,323</b>				0	2,027,757	0	8,824,566		
ADMINISTRATIVE & GENERAL:										
Legal fees	10,000		--	10,000	0	0	10,000	0	OK 100%	
Miscellaneous general expenses	35,000		--	35,000	0	0	35,000	0	OK 100%	
Indirect costs of NCA	368,795		178,027	190,768	0	0	368,795	0	OK 100%	Warehouse and auto shop labor
<b>TOTAL Administrative &amp; General Expenses</b>	<b>413,795</b>				0	0	413,795	0		
TOTAL STEAM WELL DRILLING LESS - Prior Years Collections	11,265,118 (4,387,095)		--	(4,387,095)	0	2,027,757	413,795	8,824,566 (4,387,095)		
<b>TOTAL STEAM FIELD EXPENSE</b>	<b>90,132,379</b>				1,068,951	2,027,757	34,569,783	12,475,068		
BILLING DETERMINANTS - PER GEOTHERMAL PLANT AND MAH CROSS							2	1,226,216		
BILLING UNITS - \$/GEOTHERMAL PLANT AND \$/MAH							\$17,814,367	\$11,828		
ALLOCATION OF STEAM FIELD COSTS TO GEOTHERMAL PLANTS:										
PER GEOTHERMAL OPERATING AGREEMENT										
PLANT NO. 1	50.00%						\$17,814,367			
PLANT NO. 2	50.00%						\$17,814,367			
PLANT SCHEDULED GENERATION - MAH & BEO										
PLANT NO. 1 (Normal load gen Jan-Jun '90, 150 MW)	613,109							\$7,251,823		
PLANT NO. 2 (Normal load gen Jan-Jun '90, 150 MW)	613,109							\$7,251,823		

	1989-90 BUDGET	ACCT NO.	DIVISION OF EXPENSES BETWEEN		LABOR CLASSIFIED BETWEEN		OTHER CLASSIFIED BETWEEN		CLASSIFI- CATION OF COSTS		Assumption - All plants are maintained in the Not Stand-by operating mode. BASIS FOR CLASSIFICATION
			LABOR	OTHER	FIXED	VARIABLE	FIXED	VARIABLE	FIX	VAR	
OPERATIONS:											
Fuel-Steam	\$25,066,190		--	25,066,190	0	0	17,814,367	7,251,823	71%	29%	Fixed costs allocated equally to each plant and Variable costs allocated per net plant output at the backbone.
Electric expenses:											
Labor	\$589,791		589,791	--	589,791	0	0	0	100%	0%	
Sulphur disposal	120,000		--	120,000	0	0	0	120,000	0%	100%	Disposal costs vary with the amount of steam removed from the steam field.
Abatement chemicals	40,000		--	40,000	0	0	0	40,000	0%	100%	
State hazardous waste tax	0		--	0	0	0	0	0	0%	100%	
Potable water	15,000		--	15,000	0	0	15,000	0	100%	0%	
Permits & miscellaneous	58,350		--	58,350	0	0	58,350	0	100%	0%	
Subtotal	823,141	505			589,791	0	73,350	160,000			
Other:											
Supervision & engineering	237,111	500	148,111	89,000	148,111	0	89,000	0	100%	0%	Secu grid ser; Union Oil prints, emissions work
Miscellaneous steam power	159,823	506	102,573	57,250	102,573	0	57,250	0	100%	0%	PG&E stby pur; laundry; off sup; trash rmw
Rents	2,660	507	--	2,660	0	0	2,660	0	100%	0%	Road easements
System Control & Load Dispatch	146,092		--	146,092	0	0	146,092	0	100%	0%	Allocation for dispatching plants
Shared Facilities Allocation	269,842		--	269,842	0	0	269,842	0	100%	0%	Warehouse & auto shop allocation
Transmission	29,647	570	3,147	26,500	3,147	0	26,500	0	100%	0%	PG&E emergency line maintenance
Subtotal	845,105				253,831	0	591,334	0			
TOTAL Operation	26,734,496				843,622	0	18,479,051	7,411,823			
MAINTENANCE:											
Supervision & engineering	\$131,605	510	131,605	--	0	131,605	0	0	0%	100%	Maintenance supervision
Structures (net)	195,874	511	74,874	121,000	74,874	0	121,000	0	100%	0%	Roads; maint of structures; painting
Steam auxiliaries	63,647	512	53,647	10,000	0	53,647	0	10,000	0%	100%	Miscellaneous supplies
Electric plant (net)	383,364	513	242,144	141,220	0	242,144	0	141,220	0%	100%	Oper computer maintenance; maintenance supplies
Miscellaneous steam plant equipment	140,361	514	92,361	48,000	0	92,361	0	48,000	0%	100%	Misc serv & safety supplies
TOTAL Maintenance	914,851				74,874	519,757	121,000	199,220			
MAINTENANCE RESERVE	60,000		--	60,000	0	0	60,000	0	100%	0%	
PROPERTY & OTHER TAXES:											
Property taxes	974,015	408	--	974,015	0	0	974,015	0	100%	0%	
Payroll taxes (FICA & SUI)	104,235	408	--	104,235	0	0	104,235	0	100%	0%	
TOTAL Property & Other Taxes	1,078,250			1,078,250	0	0	1,078,250	0			
ADMINISTRATIVE & GENERAL:											
Salaries & wages	\$75,957	921	75,957	--	75,957	0	0	0	100%	0%	
Office supplies & expenses	14,765		--	14,765	0	0	14,765	0	100%	0%	
Indirect costs of NCPA	461,523		--	461,523	0	0	461,523	0	100%	0%	
Administration building rent credit	(42,033)		--	(42,033)	0	0	(42,033)	0	100%	0%	
Outside services	54,200		--	54,200	0	0	54,200	0	100%	0%	
Property insurance	246,672		--	246,672	0	0	246,672	0	100%	0%	
Liability insurance (injuries & damages)	1,100		--	1,100	0	0	1,100	0	100%	0%	
Regulatory expenses	15,000		--	15,000	0	0	15,000	0	100%	0%	
Miscellaneous general expenses	34,389		--	34,389	0	0	34,389	0	100%	0%	
Maintenance of general plant	2,550		--	2,550	0	0	2,550	0	100%	0%	
Subtotal	864,123				75,957	0	788,166	0			

	1989-90 BUDGET	ADCT NO.	DIVISION OF EXPENSES BETWEEN		LABOR CLASSIFIED BETWEEN		OTHER CLASSIFIED BETWEEN		CATION OF COSTS		Assumption - All plants are maintained in the Hot Stand-by operating mode. BASIS FOR CLASSIFICATION
			LABOR	OTHER	FIXED	VARIABLE	FIXED	VARIABLE	FIX	VAR	
Employee pensions & benefits:											
SEP/IRA plan	197,922	--	197,922		0	0	129,985	67,937	66%	34%	Allocated on the basis of above labor.
Medical & dental insurance	122,929	--	122,929		0	0	80,733	42,196	66%	34%	Allocated on the basis of above labor.
Workers' compensation insurance	39,493	--	39,493		0	0	25,937	13,556	66%	34%	Allocated on the basis of above labor.
Employee life insurance	7,973	--	7,973		0	0	5,236	2,737	66%	34%	Allocated on the basis of above labor.
Long-term disability insurance	11,291	--	11,291		0	0	7,415	3,876	66%	34%	Allocated on the basis of above labor.
Subtotal	379,608	926			0	0	249,306	130,302			
TOTAL Administrative & General	1,243,731				75,957	0	1,037,472	130,302			
DEBT SERVICE (NET):											
Debt service-interest	99,468,008	--	9,468,008		0	0	9,468,008	0	100%	0%	
Debt service-principal	3,174,605	--	3,174,605		0	0	3,174,605	0	100%	0%	
Interest income	(1,684,156)	--	(1,684,156)		0	0	(1,684,156)	0	100%	0%	
TOTAL Debt Service	10,958,457				0	0	10,958,457	0			
CAPITAL ASSETS & INVENTORIES:											
Steam plant auxiliaries	90				0	0	0	0	100%	0%	
Miscellaneous plant equipment	30,000	--	30,000		0	0	30,000	0	100%	0%	
Office furniture & equipment	750	--	750		0	0	750	0	100%	0%	
Laboratory equipment	17,500	--	17,500		0	0	17,500	0	100%	0%	
Structures & improvements	14,000	--	14,000		0	0	14,000	0	100%	0%	
Transportation equipment-vehicles	0				0	0	0	0	100%	0%	
Communication equipment	2,200	--	2,200		0	0	2,200	0	100%	0%	
Plant materials & operating supplies	20,000	--	20,000		0	0	20,000	0	100%	0%	
TOTAL Capital Assets & Inventories	84,450				0	0	84,450	0			
PG&E WHEELING CREDIT	(107,352)	--	(107,352)		0	0	(107,352)	0	100%	0%	
COST OF POWER - ENCL SUPPORT POWER AND TRANSMISSION	40,966,883				994,453	519,757	31,711,328	7,741,344			
SUMMARY OF COSTS FOR GEOTHERMAL OPERATING AGREEMENT:											
NET DEBT SERVICE	\$10,958,457										
OTHER FIXED COSTS	21,747,324										
VARIABLE COSTS	8,261,101										
TOTAL COST OF POWER - GEOTHERMAL NO. 1	\$40,966,883										
GEOTHERMAL PLANT STATISTICS:											
PLANT CAPACITY (118,000 kW net) ADJUSTED TO BEO							1,385,352	MW-MONTHS			
SCHEDULED PLANT GENERATION AT BEO							613,109	MWH			
PG&E SUPPORT COSTS FOR INTERCONNECTED CITIES ONLY:											
PG&E TRANSMISSION RATES											
\$/UNIT											
TOTAL											
OTHER PG&E COSTS FOR 1A CITIES											
Emergency power							\$15,000				
Spinning Reserves							12,000				
Total Other PG&E Costs							\$27,000				
Additional Variable							\$0.0971	\$/MWH			
TOTAL TRANSMISSION COST	\$1,257,015										
TRANSMISSION RATE - \$ per KW-MONTH (BEO)	\$2.0008										

	1989-90 BUDGET	ACCT NO.	DIVISION OF EXPENSES BETWEEN		LABOR CLASSIFIED BETWEEN		OTHER CLASSIFIED BETWEEN		CATION OF COSTS		Assumption - All plants are maintained in the Hot Stand-by operating mode. BASIS FOR CLASSIFICATION
			LABOR	OTHER	FIXED	VARIABLE	FIXED	VARIABLE	FIX	VAR	
OPERATIONS:											
Fuel-Steam	\$25,066,190		--	25,066,190	0	0	17,814,367	7,251,823	OK	OK	Fixed costs allocated equally to each plant and Variable costs allocated per net plant output at the backbone.
Electric expenses:											Disposal costs vary with the amount of steam removed from the steam field.
Labor	\$544,964	505	544,964	--	544,964	0	0	0	100%	OK	
Sulphur disposal	495,000	505	--	495,000	0	0	0	495,000	OK	100%	
Abatorant chemicals	403,000	505	--	403,000	0	0	0	403,000	OK	100%	
State hazardous waste tax	100,000	505	--	100,000	0	0	0	100,000	OK	100%	
Potable water	40,000	505	--	40,000	0	0	40,000	0	100%	OK	
Permits & miscellaneous	68,050	505	--	68,050	0	0	68,050	0	100%	OK	
Subtotal	1,661,014				544,964	0	108,050	998,000			
OTHER:											
Supervision & engineering	222,711	500	148,411	74,300	148,411	0	74,300	0	100%	OK	Secur grt; Unio Oll permits; supplies & serv
Miscellaneous steam power	159,823	506	102,573	57,250	102,573	0	57,250	0	100%	OK	Laundry; PGE stby par; office sup; trash
Rents	2,650	507	--	2,650	0	0	2,650	0	100%	OK	Road easements
System Control & Load Dispatch Allocation	148,569	--	--	148,569	0	0	148,569	0	100%	OK	Allocation for plant dispatch
Shared Facilities Allocation	269,842	--	--	269,842	0	0	269,842	0	100%	OK	Allocation for warehouse & auto shop
Transmission - Miscellaneous	39,647	570	--	39,647	0	0	39,647	0	100%	OK	PGE energ line repair & inspection
TOTAL Other	843,242				250,984	0	592,258	0			
TOTAL Operation	27,560,446				795,948	0	18,514,675	8,249,823			
MAINTENANCE:											
Supervision & engineering	\$153,997	510	153,997	--	0	153,997	0	0	OK	100%	NCPA supervision
Structures	208,525	511	78,025	130,500	78,025	0	130,500	0	100%	OK	Road maint; maint of structures; painting
Steam auxiliaries	66,974	512	56,974	10,000	0	56,974	0	10,000	OK	100%	Miscellaneous material & supplies
Electric plant (net)	451,272	513	263,322	187,950	0	263,322	0	187,950	OK	100%	Instrument maint; contract labor; m & s
Miscellaneous steam plant equipment	159,815	514	101,815	58,000	0	101,815	0	58,000	OK	100%	Steam plt equip; fire & crane maint; comm equip
TOTAL Maintenance	1,040,583				78,025	576,108	130,500	255,950			
MAINTENANCE RESERVE	500,000		500,000		0	0	500,000	0	100%	OK	Extraordinary maintenance expense.
PROPERTY & OTHER TAXES:											
Property taxes	\$952,582	408	--	952,582	0	0	952,582	0	100%	OK	
Payroll taxes (FICA & SUI)	104,881	408	--	104,881	0	0	104,881	0	100%	OK	
TOTAL Property and Other Taxes	1,057,463			1,057,463	0	0	1,057,463	0			
ADMINISTRATIVE & GENERAL:											
Salaries & wages	81,468		81,468	--	81,468	0	0	0	100%	OK	
Office supplies & expenses	11,995		--	11,995	0	0	11,995	0	100%	OK	
Indirect costs of NCPA	467,673			467,673	0	0	467,673	0	100%	OK	
Administration building rent credit	(41,980)			(41,980)	0	0	(41,980)	0	100%	OK	
Outside services	54,200			54,200	0	0	54,200	0	100%	OK	
Property insurance	261,730			261,730	0	0	261,730	0	100%	OK	
Liability insurance (injuries & damages)	1,100			1,100	0	0	1,100	0	100%	OK	
Regulatory expenses	15,000			15,000	0	0	15,000	0	100%	OK	
Miscellaneous general expenses	30,759			30,759	0	0	30,759	0	100%	OK	
Maintenance of general plant	2,550			2,550	0	0	2,550	0	100%	OK	
Subtotal	884,095				81,468	0	802,627	0			

	1989-90 BUDGET	ACCT NO.	DIVISION OF EXPENSES BETWEEN		LABOR CLASSIFIED BETWEEN		OTHER CLASSIFIED BETWEEN		CLASSIFI- CATION OF COSTS		Assumption - All plants are maintained in the Hot Stand-by operating mode. BASIS FOR CLASSIFICATION
			LABOR	OTHER	FIXED	VARIABLE	FIXED	VARIABLE	FIX	VAR	
ADMINISTRATIVE & GENERAL: CONTINUED											
Employee pensions & benefits:											
SEP/IRA plan	200,559	--		200,559	0	0	131,092	69,467	65%	35%	Allocated on the basis of above labor.
Medical & dental insurance	123,375	--		123,375	0	0	80,642	42,733	65%	35%	Allocated on the basis of above labor.
Long-term disability insurance	8,083	--		8,083	0	0	5,283	2,800	65%	35%	Allocated on the basis of above labor.
Employee life insurance	11,453	--		11,453	0	0	7,486	3,967	65%	35%	Allocated on the basis of above labor.
Workers' compensation insurance	39,930	--		39,930	0	0	26,100	13,830	65%	35%	Allocated on the basis of above labor.
Subtotal	383,400				0	0	250,603	132,797			
TOTAL Administrative & General Expenses	1,267,495				81,468	0	1,053,230	132,797			
DEBT SERVICE (NET):											
Debt service-interest	\$14,126,091	--		14,126,091	0	0	14,126,091	0	100%	0%	
Debt service-principal	4,961,448	--		4,961,448	0	0	4,961,448	0	100%	0%	
Interest income	(2,493,720)	--		(2,493,720)	0	0	(2,493,720)	0	100%	0%	
TOTAL Debt Service	16,593,819				0	0	16,593,819	0			
CAPITAL ASSETS & INVENTORIES:											
Office furniture & equipment	\$750	--		750	0	0	750	0	100%	0%	
Laboratory equipment	17,500	--		17,500	0	0	17,500	0	100%	0%	
Plant materials & operating supplies	50,000	--		50,000	0	0	50,000	0	100%	0%	
Steam miscellaneous power plant equip.	0	--		0	0	0	0	0	100%	0%	
Stratford tank modification	0	--		0	0	0	0	0	100%	0%	
Communication equipment	0	--		0	0	0	0	0	100%	0%	
Radio repeater station	2,200	--		2,200	0	0	2,200	0	100%	0%	
TOTAL Capital Assets & Inventories	70,450				0	0	70,450	0			
POBE Wheeling Credit	(107,352)	--		(107,352)	0	0	(107,352)	0	100%	0%	
TOTAL COST OF GEOTHERMAL PLANT NO. 2	\$47,982,904				\$955,441	\$576,108	\$37,812,785	\$8,638,570			
GEOTHERMAL PLANT STATISTICS:											
	NO.1	NO.2			TOTAL						
PLANT CAPACITY - MW MONTHS	1,385,352 MW-MO	1,408,833 MW-MO			2,794,185 MW-MO						
SCHEDULED PLANT GENERATION AT BED	613,109 MWh	613,109 MWh			1,226,218 MWh						
SUMMARY OF COSTS FOR GEOTHERMAL OPERATING AGREEMENT:	NO.1	NO.2			TOTAL						
NET DEBT SERVICE	\$10,958,457	\$16,593,819			N/A						
OTHER FIXED COSTS	21,747,324	22,174,407			\$43,921,731						
VARIABLE COSTS	8,261,101	9,214,678			\$17,475,779						
TOTAL COST OF POWER	\$40,966,883	\$47,982,904									
TRANSMISSION RATE:	POBE RATES	ADJUSTMENT FACTOR TO BACKBONE CUT			OTHER POBE COSTS FOR 1A CITIES & TID						
GENERATION TIE - \$ per MW-MONTH	\$0.478	1.022123	\$0.489		Emergency power						\$41,000
BACKBONE - \$ per MW-MONTH	\$0.570	1.018800	\$0.581		Spinning Reserves						12,000
AREA - \$ per MW-MONTH	\$1.134	1.000000	\$1.134		Total Other POBE Costs						\$53,000
TRANSMISSION RATE - \$ per MW-MONTH (GEBDO)			\$2.203		Additional Variable						\$0.1312 \$/MWh

* COMBINED GEOTHERMAL PROJECT PRICING		
	NO.1	NO.2
* CAPACITY RATE - \$/MW-MONTH	\$23.563	\$27.996
* ENERGY RATE - \$/MWh	\$14.252	\$14.252

EXHIBIT B  
PROJECT ENTITLEMENT PERCENTAGES \*

Alameda	16.8825%
Biggs	.227*
Gridley	.395*
Healdsburg	3.674*
Lodi	10.280*
Lompoc	3.681
Palo Alto	6.158*
Roseville	7.883*
Santa Clara	44.3905
Turlock Irrigation District	*
Ukiah	5.6145*
Plumas-Sierra Rural Electric Cooperative	<u>.8145*</u> <u>100.0000%</u>

\* The asterisk identifies a Project Participant that has transferred temporarily or permanently its "East Block Entitlement Percentage," or acquired its "Project Entitlement Percentage" by transfer and which, therefore, shall have its "Project Entitlement Percentage" determined as of any particular date of determination pursuant to the appendices to or terms of the agreement by which the transfer was made. For

Execution Counterpart Geothermal Project Operating Agreement

Exhibit B  
Page 1

each of the Project Participants identified with an asterisk, the actual "Project Entitlement Percentage" is less than shown in the column above, except for Turlock. The exact "Project Entitlement Percentage" shall be determined in the Year in which the date of any determination under this Agreement is made, in accordance with those appendices and agreements, notwithstanding the fact that a particular percentage is shown in the column above. For ease of reference, the relevant definitions and agreements are described below.

"Project Entitlement Percentage" means, with respect to each Project Participant, the percentage so identified and set forth opposite the name of such Project Participant in Appendix A to the Project No. 3 Member Agreement, as defined in Amendment Number One thereof, as such percentage shall be revised from time to time in accordance with sections 7(d) and 13 thereof, shown on this Exhibit B.

"East Block Entitlement Percentage" and "Project No. 2 Entitlement Percentage" mean, with respect to each Project Participant the percentages so identified and set forth opposite the name of such Project Participant in the same Appendix A, as such percentages shall be revised from time to time in accordance with sections 7(d) and 13 thereof, and all as may be affected by the Agreement for Transfer of Rights to Capacity and Energy of Geothermal Generating Project Number 3, dated as of October 1 1984, by and among the Transferring Participants and the Turlock Irrigation District (Turlock Member Agreement), with the Transferred East Block Entitlement Percentages so identified and set forth opposite the name of each Transferring Participant and Turlock Irrigation District in Appendix A thereto, a copy of which is attached to and incorporated into this Exhibit B.

The "East Block Entitlement Percentage" of Palo Alto is also affected by the Agreement between the Turlock Irrigation District and the City of Palo Alto, dated December 30, 1985 (Palo Alto Agreement), by which Palo Alto transferred its entire original East Block Entitlement Percentage to Turlock.

The "Project Entitlement Percentage" of Turlock Irrigation District is determined as of any date of determination, under the Turlock Member Agreement and the Palo Alto Agreement, as the sum of the Transferred East Block Entitlement Percentages in the Year in which the date of any determination under this Agreement is made.



APPENDIX A (revised)

SCHEDULE OF PROJECT PARTICIPANTS  
AND PROJECT ENTITLEMENT PERCENTAGES  
(Revised September 12, 1983)

<u>Project Participant</u>	<u>Project No. 2 Entitlement Percentage</u>	<u>East Block Entitlement Percentage</u>	<u>Project Entitlement Percentage</u>
City of Alameda	14.994%	18.771%	16.8825%
City of Biggs	0.000	.454	.227
City of Gridley	.334	.456	.395
City of Healdsburg	3.252	4.096	3.674
City of Lodi	14.560	6.000	10.280
City of Lompoc	3.266	4.096	3.681
City of Palo Alto	0.000	12.316	6.158
City of Roseville	3.252	12.514	7.883
City of Santa Clara	54.651	34.13	44.3905
City of Ukiah	4.972	6.257	5.6145
Plumas-Sierra Rural Electric Cooperative	<u>.719</u>	<u>.91</u>	<u>.8145</u>
TOTAL	100.000%	100.000%	100.000%

APPENDIX A

SCHEDULE OF TRANSFERRING PARTICIPANTS  
AND  
TRANSFERRED EAST BLOCK ENTITLEMENT PERCENTAGES  
(From 1985 to End of Project Life)

MEMBER	1983	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001 TO LIFE
ALAMEDA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BIGGS	0.000	0.111	0.118	0.118	0.236	0.236	0.236	0.236	0.236	0.236	0.236	0.209	0.209	0.209	0.209	0.209	0.000
GRIDLEY	0.114	0.227	0.227	0.227	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.318	0.318	0.318	0.318	0.318	0.118
HEALDSBURG	0.000	0.827	0.827	0.827	1.645	1.645	1.645	1.645	1.645	1.645	1.645	1.455	1.455	1.455	1.455	1.455	0.000
LODI	0.000	0.773	0.773	0.773	1.555	1.555	1.555	1.555	1.555	1.555	1.555	0.636	0.636	0.636	0.636	0.636	0.000
LOMPOC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PALO ALTO	0.766	0.127	0.127	0.127	12.316	12.316	12.316	12.316	12.316	12.316	12.316	12.316	12.316	12.316	12.316	12.316	0.964
PLUMAS-SILVERA	0.227	0.466	0.466	0.466	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.645	0.645	0.645	0.645	0.645	0.227
ROSEVILLE	0.000	0.727	0.727	0.727	0.427	0.427	0.427	0.427	0.427	0.427	0.427	0.809	0.809	0.809	0.809	0.809	0.000
UKIAH	0.000	0.355	0.355	0.355	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.000

TOTAL AT PLINT  
Transferred to  
the District

9.309 19.618 19.618 19.618 27.924 27.924 27.924 27.924 27.924 27.924 27.924 27.924 27.924 27.924 27.924 27.924 27.924 27.924